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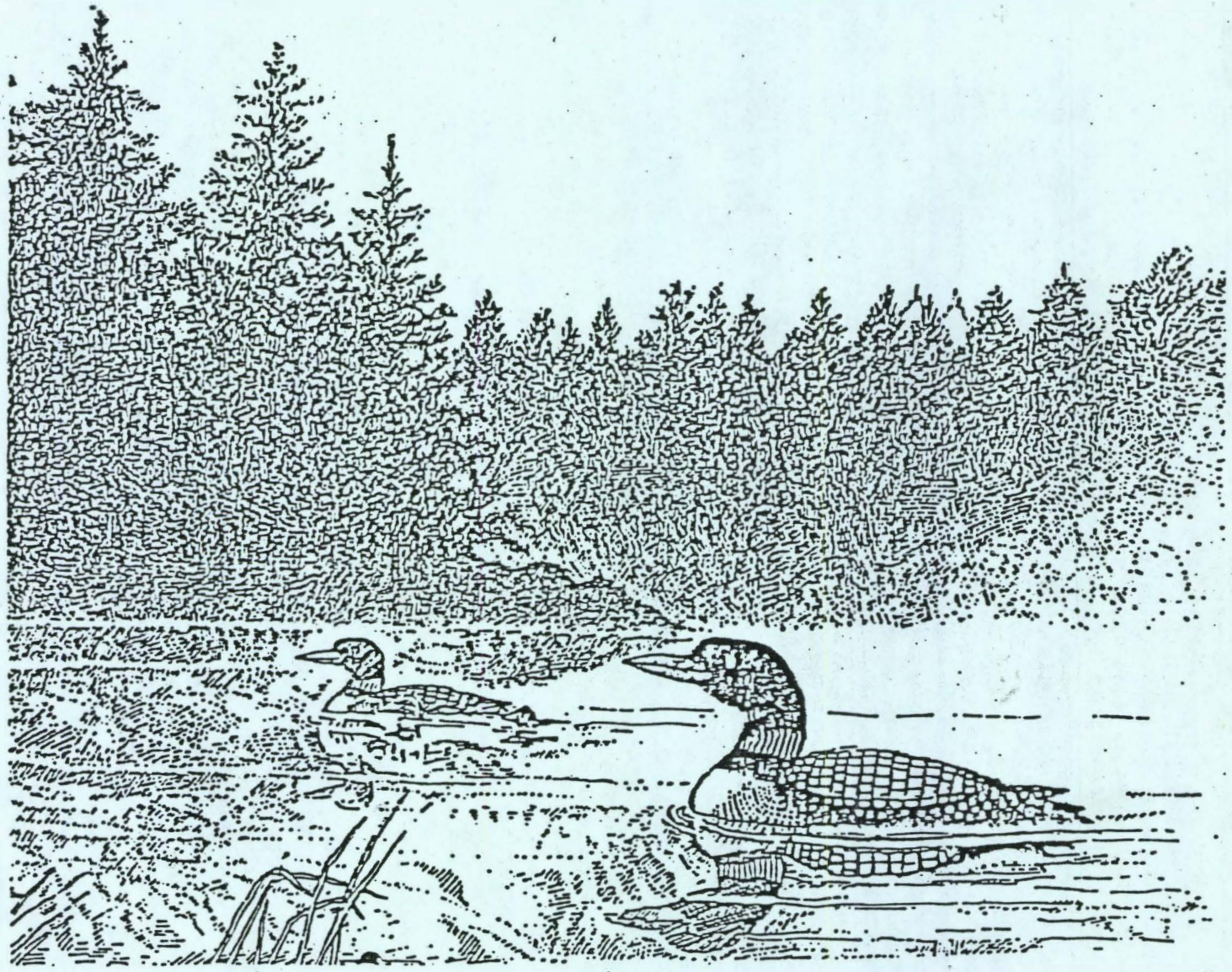
RICE RIVER MANAGEMENT - A FEASIBILITY STUDY



Professional Development for Outdoor Recreation Management
Clemson University Class of 1989

Howard A. Zeman
Chippewa National Forest Marcell, Minnesota

RICE RIVER MANAGEMENT

A FEASIBILITY STUDY

By
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April 1990

"This paper was prepared as a student project in partial fulfillment of the requirements of the Professional Development for Outdoor Recreation Management program at Clemson University. It in no way reflects USDA Forest Service policy nor are the opinions expressed those of anyone other than the author."

ABSTRACT

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TITLE: RICE RIVER MANAGEMENT PLAN - A FEASIBILITY STUDY

ABSTRACT: Interest in the Rice River as a canoe route extending from Clubhouse Lake to Bigfork Minnesota has existed for a number of years. Local publics and landowners along the Rice River maintained portions of the route in the past in accordance with their individual needs. Much of the 20 miles extends through old growth forested stands of timber and homesteads, and connects with other lakes. Fishing, trapping, viewing, solitude, and canoeing in a semi primitive setting are the primary attractions. Users of the Rice River as well as Local, County, State, and Federal Governments have indicated a desire to keep the river open and provide interpretive facilities and camping opportunities which will enhance the tourism appeal of the area.

Several obstacles to completion of a management plan for the Rice River eed to be overcome. County, State, and Federal Agencies would be involved, along with private and corporate landowners, in order to achieve customer satisfaction. Additional funding would have to be received, or an alternative means of maintaining the Rice River, such as volunteers, would be needed. Partnership agreements should be secured in order to provide for long term management. Project costs are high and it is necessary to ascertain whether the area is suitable for providing the quality facility that will attract users before an investment is made.

This paper addresses the demand for use of the Rice River; whether or not an opportunity exists to enhance the tourism of the area; the type of improvements that would be desirable; an estimate of the costs; and gives an indication of the support for the project.

Keywords: Semi-Primitive, Customer Satisfaction, Volunteers, Partnership Agreements

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EXECUTIVE SUMMARY

Title: Rice River Management, A Feasibility Study

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Summary: The Rice River has been used as a popular canoe route for a number of years. Local publics and adjacent landowners along the Rice River have maintained portions of the River in accordance with their individual needs. Much of the vegetation along the River is old growth timber and is highly susceptable to windthrow. Use of the river was directly related to when it was last cleared. In the late 1960's, the U.S. Forest Service performed some maintenance on the River and constructed several primitive campsites. Following that time period, funding for recreation was limited and favored developed recreation programs. During the past several years the public has contacted personnel on the Chippewa National Forest requesting the Rice River Canoe Route receive improved management. This need is consistent with the National Recreation Strategy and in 1989, the Marcell Ranger District initiated a project "field day" to begin clearing logs, brush and debris out of the Rice River. Much discussion addressed desirable attributes of the Rice River and interest in management of the Rice River rather than just "take a chance".

Information on outdoor recreation demands for canoeing exists for the Boundary Waters Canoe Area (BWCA), however, data for adjacent communities and areas are not so evident. Input from the Grand Rapids Visitors and Convention Bureau indicates a public demand exists for canoeing and the amenities associated with

canoeing, such as wildlife viewing, exercise, and solitude. Resource criteria discussed in the management plans for the Mississippi and Minnesota Rivers was reviewed, and used as criteria for determining the feasibility of a Rice River management plan. A questionaire was also distributed to local groups to determine the use pattern and support for managment of the Rice River.

The demand for land based outdoor recreation activities in North Central Region of Minnesota is projected to increase 58 percent between the years 1977 and 2030. Not all the increase will be canoing, but, the canoeing/river floating/ boating index is expected to increase 59 percent.

Tourism is a major generator of income in northern Minnesota. While fishing is most popular, there is an increasing demand to provide opportunities to view wildlife, enjoy solitude in a semi-primitive setting, and maintain personal fitness.

The area resources were evaluated and found to qualify under all categories, and provides an opportunity for cultural and historical interpretation, wildlife viewing, solitude, and environmental education.

Input from the questionnaire indicated a demand exists for canoeing in a natural (semi-primitive) setting. The users also feel that "managed' diversity in the landscape along the corridor compliments the natural history of old logging camps and homesteads. A need for improved management of the Rice River Canoe Route was strongly emphasized.

Cost estimates were determined for initial clearing of debris, improving existing dispersed campsites, and constructing several additional sites. Signing and access needs were addressed as well as restoration of several historical sites along the route. Project assistance will be obtained through

volunteers, partnerships with user groups, as well as Minnesota Department of Natural Resources.

Based on this study, the following recommendations are made:

1) Management of the Rice River Canoe Route should be undertaken.

2) The desired length should be from Clubhouse Campground to the Bigfork River access at Bigfork, Minnesota.

3) A non-profit organization organization should be established, called "The Rice River Users Association. This group to assist, monitor, and promote activities associatied with the Rice River Canoe Route.

4) Responsibility should be located with the Chippewa National Forest for leadership in the Rice River Canoe Route Management. The Minnesota DNR is identified as a cooperator.

5) The Rice River Canoe Route should be maintained for small boats as well as canoes.

6) An updated self guided Rice River Canoe Route brochure should be completed.

7) All man made improvements should display a semi-primitive theme.

8) The Rice River Canoe Route should be utilized as an opportunity to interpret the natural values and qualities of the Northwoods of Minnesota. Environmental Education opportunities with local schools as well as with the summer Naturalist program should be pursued.

ACKNOWLEDGEMENTS

"There are just two things on
this material earth-- people
and natural resources."
Gifford Pinchot

I would like to thank the entire Marcell Ranger District Team for patiently supporting me, both during my three week absence while I attended the Clemson shortcourse, and in assisting in completing the project paper. Specific effort was given by: Mary Selsemeyer, Dee Wright, Donna Heide, El Ogg, Gail Snell, Bill Trebs, Paul Hanson, and Dave Sorenson.

Sherri Schwenke, Landscape Architect, Forest Supervisors Office, Cass Lake, was of great assistance in editing, map work, and layout of the project paper, as well as the oral review. Sherri's special talents proved very helpful.

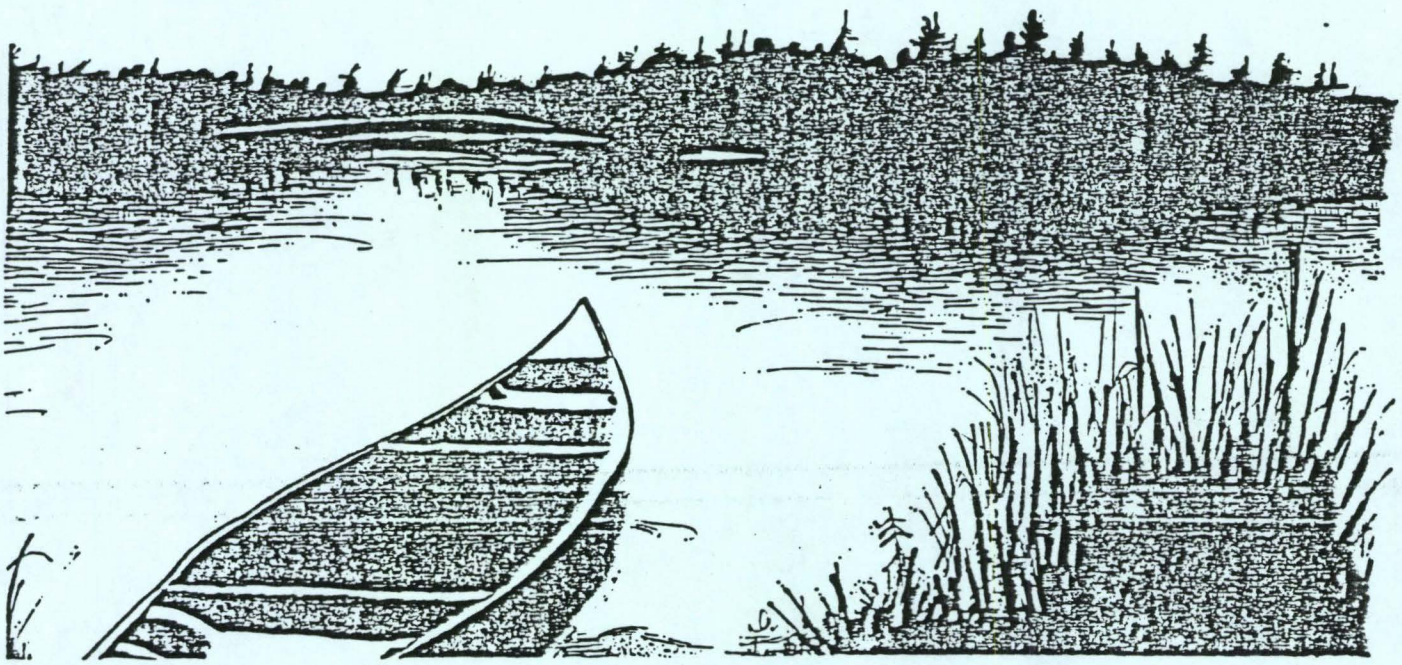
Ed Schmitt, East Zone Engineer, Deer River, for assistance with cost figures.

I thank Sandy Verry, from the North Central Forest Experiment Station in Grand Rapids, for providing valuable input, and for assisting with layout and editing of the paper.

The Chippewa National Forest Leadership Team for their support. Even though subtle, it was there!

To my family, who soon understood the "Clemson Project" was reason for my absence, and who also are looking forward to this summers canoe trip down the "Rice River".

INTRODUCTION



CHAPTER I - INTRODUCTION

STUDY AREA

Minnesota gets its name from a Dakota translation meaning "Sky-Blue Water". Indeed, the State is rich in water resources with over 91,944 river miles, 3.4 million lake acres, and some six million acres of wetlands. There are currently 2865 miles of designated canoe routes statewide.

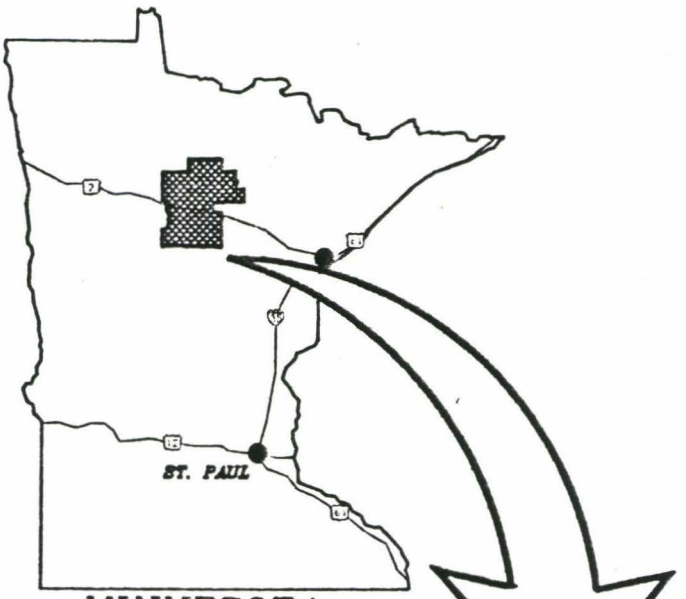
Northern Minnesota is well known for its extensive system of canoe routes which were once the travel route of the Voyageurs. Prior to the coming of Europeans, use by American Indians extended well into antiquity.

The Rice River is located on the east edge of the Chippewa National Forest, in the heart of north central Minnesota (Figure 1). The Forest is 1,566,631 acres in size, 661,596 of which are managed by the United States Forest Service. This area of Minnesota encompasses many of the States characteristic "10,000 lakes".

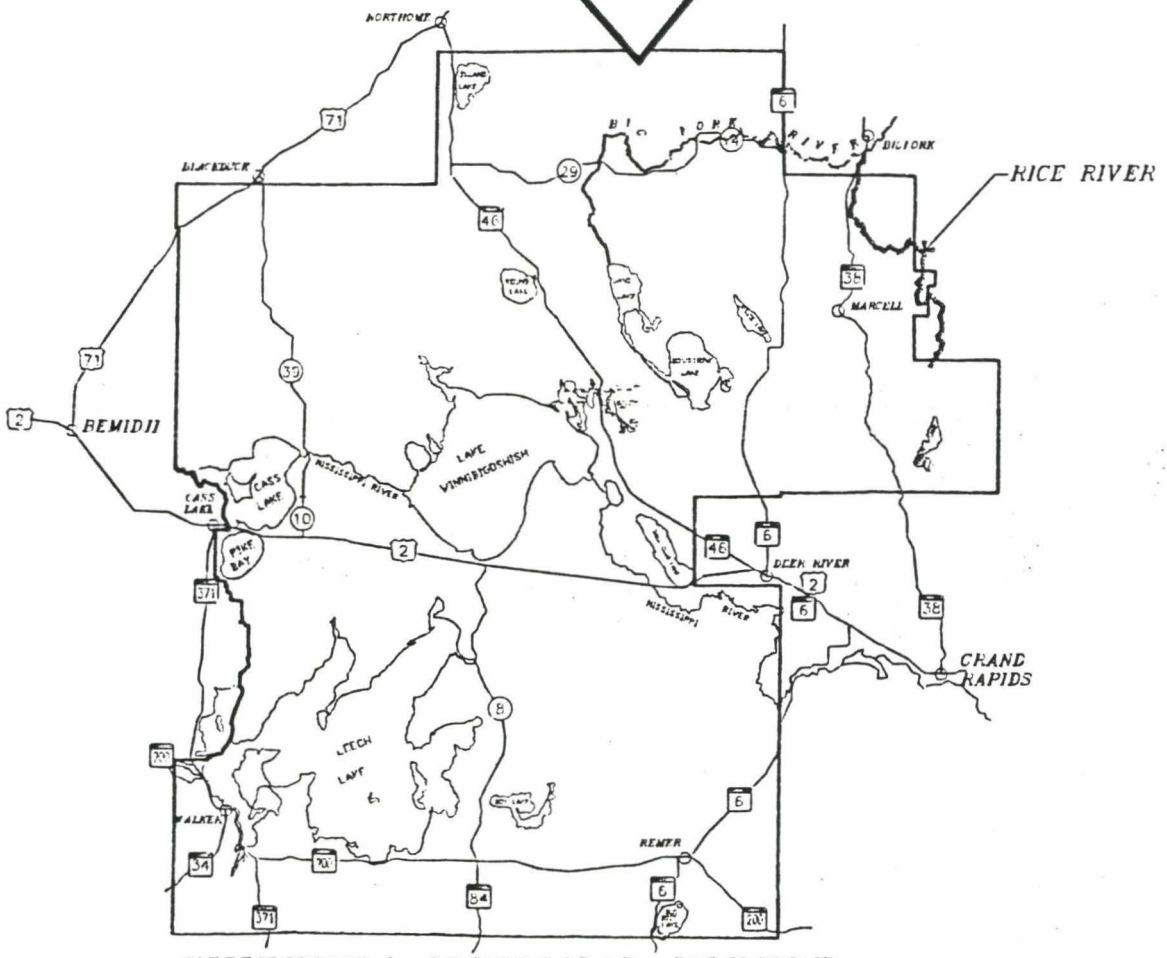
Originating in a recreational lake area in northern Itasca County, the Rice River flows northward for 26 miles to its confluence with the Bigfork River. Only one area of development occurs, the city of Bigfork, along this largely pristine river. Scattered small farms dot the landscape near the north end near Bigfork. Spruce, fir, pine, cedar, aspen, and birch comprise most of the shoreland forest cover. The Rice River is a slow meandering River with water depth dependent upon the amount of precipitation and season. After June 30,

the level of the River can become quite low and may even be impassable. There are no portages, other than carry overs at occasional beaver dams. The rate of travel depends upon the individual. There are many places where the user may wish to drift and watch the activities of wildlife, or stop to examine the evidence of former human activity along the stream. Several access points exist along the 26 miles to allow the user an opportunity to float 1/2 a day or several days. Use of the river's shoreland includes forestry, recreation, some farming, residential development, and some commercial use in and near the city of Bigfork. Pulpwood and lumbering are the principal industries, and are of paramount importance to the economy and well being of this region as well as to the State of Minnesota.

RICE RIVER



MINNESOTA



CHIPPEWA NATIONAL FOREST

The Rice River lies within the Marcell Ranger District which became a part of the acquisition area added to the Chippewa National Forest in August, 1933. Recreational use of the area began as the access was improved with logging roads. New landowners from as far away as Chicago, Illinois began developing summer homes on the area lakes. The Marcell Ranger District Multiple Use plan, dated July 20, 1967, addresses the recreation resource of the area and explains that it remains relatively "untapped", with major campgrounds on only two of the 350 lakes within the Ranger District. During the 1960s, the Rice River was utilized by the local publics for trapping, hunting, and for gathering of wild rice in the fall.

Recreational development began to steadily increase during the 1960's and 1970's until, at the present time, most desirable lakeshore lots are occupied by one type of improvement or another.

PRESENT SITUATION

Much of the canoeing emphasis in Minnesota has centered on the Boundary Waters Canoe Area in Northeastern Minnesota. Lakes in North Central Minnesota have historically been accessed via road, and are used mainly by boats with motors, and have been given National significance due to their sustained production of the ever popular walleye pike.

During the public involvement process of the Chippewa National Forest Plan, some input was received that stated a desire for non-motorized water experiences. A certain segment of the public even suggested that canoe routes on the Rivers of the Chippewa National Forest were desirable. A different recreation experience, one that allowed for viewing wildlife, exercise, and general interpretation of the values the Northwoods had to offer, was emphasized. In order to meet this public need, several historically used canoe routes were indentified. One of these was the Rice River Canoe Route.

Mike Bakke of Bakke's River Guide Service of Bigfork, Minnesota, states:

> There is indeed a demand for River Canoeing. He has suggested that there is a demand from area Community Colleges for weekend outings, and, adds that there is a segment of the recreation users who enjoy canoeing in a pristine setting, to view wildlife and waterfowl.

During the past several years, local landowners, as well as guide services, have indicated a strong demand exists for use of the the Rice River. Previously, use was intermittent, occurring primarily during high water level periods in order to navigate around the deadfall and brush accumulated along the river. Users could not predict how long it would take them to canoe from the drop off point to the pick up point. In some areas on the Rice River, users pushed their canoe through the brush more than paddled through. This resulted in frustrations, and use occurred only by those seeking a very wild and primitive experience, which usually excluded those beyond middle age. During the past several years, some recently retired groups, (usually families or close friends), began to spend time clearing segments of the Rice River, and use has increased. However, some of the same frustrations exist. In 1989, due to marketing efforts by the Marcell Ranger District to focus on changing needs of the user or customer, renewed effort was made to provide for safety on the Rice River. Several work days were set aside to clear brush and open up the River for canoeing. The project received recognition in several communities and towns. Various user groups turned out for the cleanup day, and have since expressed support for management of the Rice River.

During the spring of 1984, the Minnesota Department of Natural Resources (Minnesota DNR), conducted a mail survey of Minnesota households to learn their opinions on the amount and availability of 37 types of outdoor recreation facilities. The survey results indicated that 47% of respondents desired more canoe routes in the state. The canoe route group ranked in the top half for

most frequently requested facility. The survey also indicated that designated canoe routes and canoe accesses should be managed either by State or by Federal agencies.

An assessment of tourism (Blank and Simonson, 1980), found that marketing should concentrate upon the unique northern woods and waters experience available in the area. Such an image test eliminates neither fishing nor motors. But in the case of fishing, emphasis may shift from concentration upon numbers and pounds caught, to include the teaching of fish ecology. In the case of motors, they become less emphasized to cover long miles to get to a secluded fishing spot, and more emphasized as a means for those not otherwise able to access parts of the area.

The present situation for management and use of the Rice River suggests that, as managers, we must first know our clients. Demographic and social factors, coupled with changing recreation trends and the continuing search for more meaningful recreation, is creating a need for more and different types of recreation. There is confusion, if not disagreement, within the Forest Service over the value of recreation marketing. Some fear that management automatically means greater use will occur, which results in abuse. Recreational use of the Rice River provides an opportunity to apply marketing techniques utilized in the private sector for many years. Even though public service agencies are more subject to public review and regulations than most private firms, the basic marketing principles are very similar.

PURPOSE OF STUDY

The Chippewa National Forest Plan discusses canoe routes currently maintained by the Forest Service. It mentions that the associated facilities along the route, such as undeveloped landings and dispersed camping sites, will continue

to be maintained. Specific standards and guidelines may be found within the appropriate management area.

During the public involvement phase of Forest Planning, (Stokes Tower Opportunity Area), the public expressed a desire for improving the dispersed sites and access points, and favored intrepretation through the use of self guided brochures.

Specific objectives of this study include:

A) Determine the supply and demand for canoe routes in northern Minnesota by meeting with local publics, as well as those users who vacation in the area.

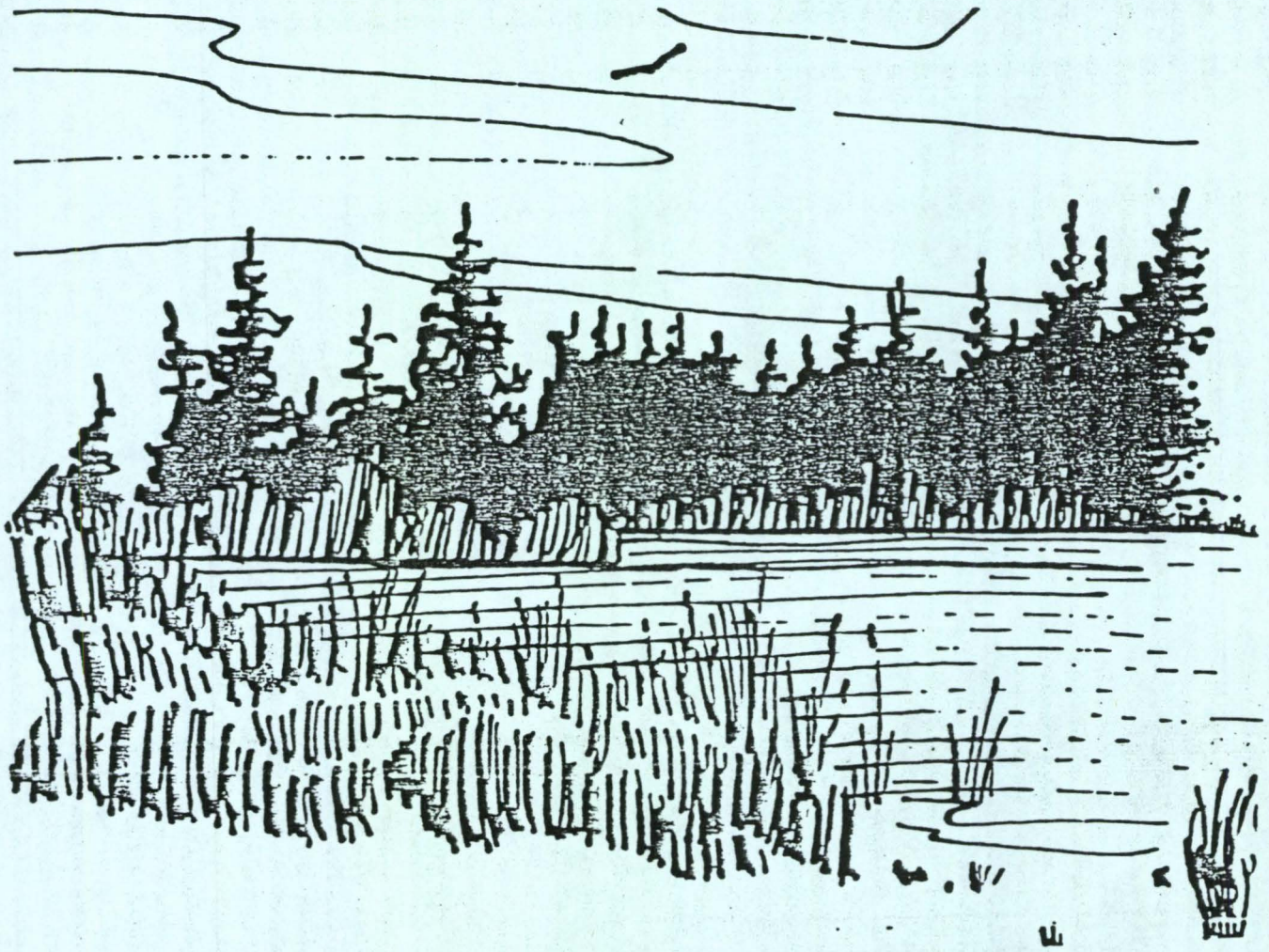
B) Utilize a questionnaire to determine customer desires and needs for the Rice River Canoe Route.

C) Evaluate the feasibility for improving existing facilities or adding additional campsites, interpretive facilities, or access points.

D) Determine whether the Rice River Canoe Route should be retained in a semi-primitive setting.

E) Complete a specific plan for follow-up items that were identified in the study.

LITERATURE REVIEW



Chapter II

CHAPTER II - LITERATURE REVIEW

A literature review was conducted to gain greater familiarity with outdoor recreation trends on a national as well as local level. Specific attention was given to determine demands for river use, and to seek out successful river management programs that have occurred elsewhere. Documentation of public participation in maintenance, the previous interests in interpretation, and levels of use, was sought out.

Specific Objectives of the literature review were to:

* Understand demand and customer satisfaction (to "know" our clients).

* Review the recreation history of the Rice River and "management" by the Chippewa National Forest.

* Discuss successes elsewhere in River Management partnerships.

* Review the concept of marketing, and utilize it to outline various techniques for determining desirability of a Rice River Management Plan.

* Improve understanding of the Recreation Opportunity Spectrum.

Sources of publications were:

FS-INFO - a computerized literature search

North Central Forest Experiment Station - Grand Rapids, Minnesota

Itasca Community College Library

Forest Service internal documents

Clemson Short Course Lectures and Handouts

Searches in Libraries of the Marcell Ranger District Office and the Bigfork Community Library.

Personal contacts and informational meetings were held with public agencies, local governments, resort and motel owners and canoe enthusiasts, and canoe outfitters to determine their support and interest in the proposed project.

OVERVIEW

It is important that forest managers at all levels understand the term "Marketing". As a base I reviewed documents that explain the concept and process of recreational marketing There is confusion, if not disagreement, within the Forest Service over the value of pursuing marketing. Some of the benefits of marketing in management include:

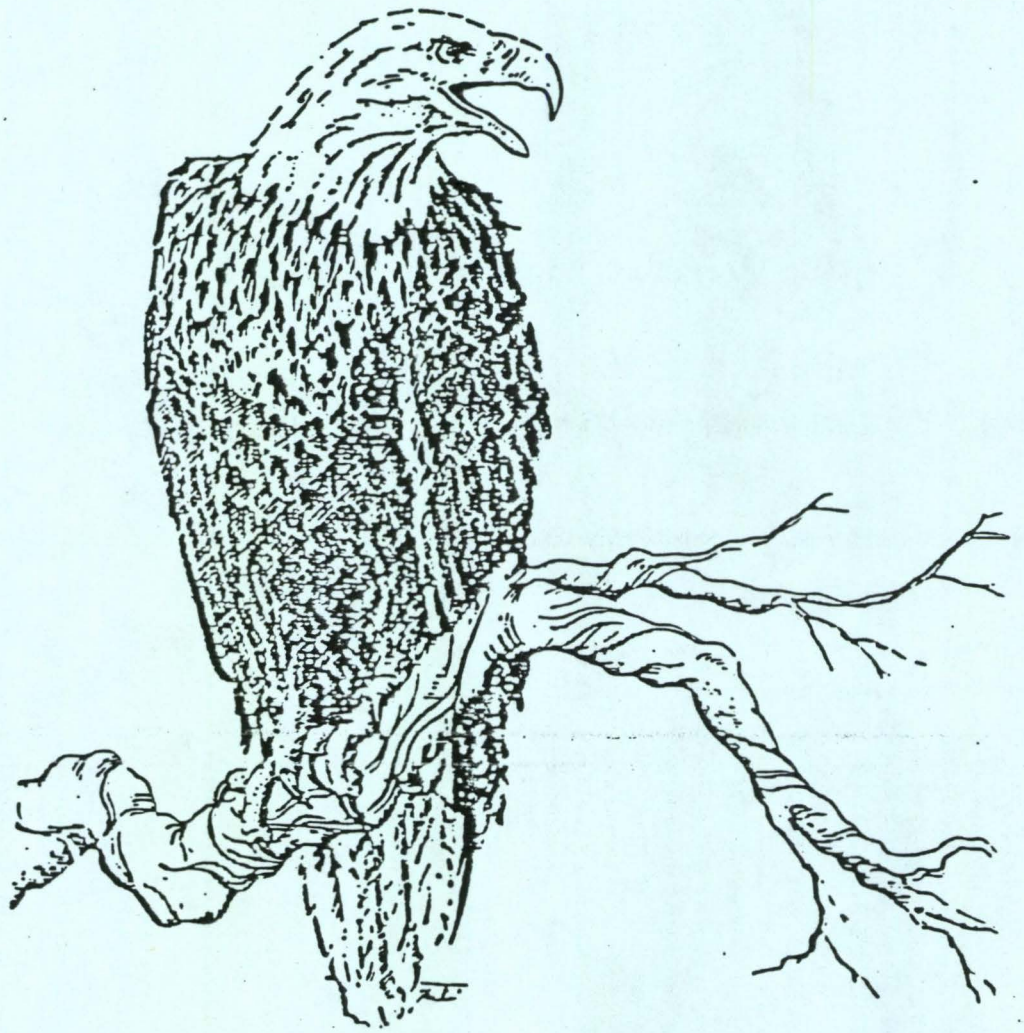
--increasing use in underutilized areas or decreasing use in over-utilized areas.

--increasing awareness and visibility of a specific area, forest, or National Forests in general.

--enhancing the recreation experience by evaluating the needs and wants of the public, and intentionally designing information and management for those needs.

--recognizing that people differ in interests, and marketers divide consumers into interest groups so they can focus their promotional efforts. This process is termed market segmentation (e.g. older users interested in canoeing vs. young).

METHODOLOGY



Chapter III

CHAPTER III - METHODOLOGY

Areas of Analysis

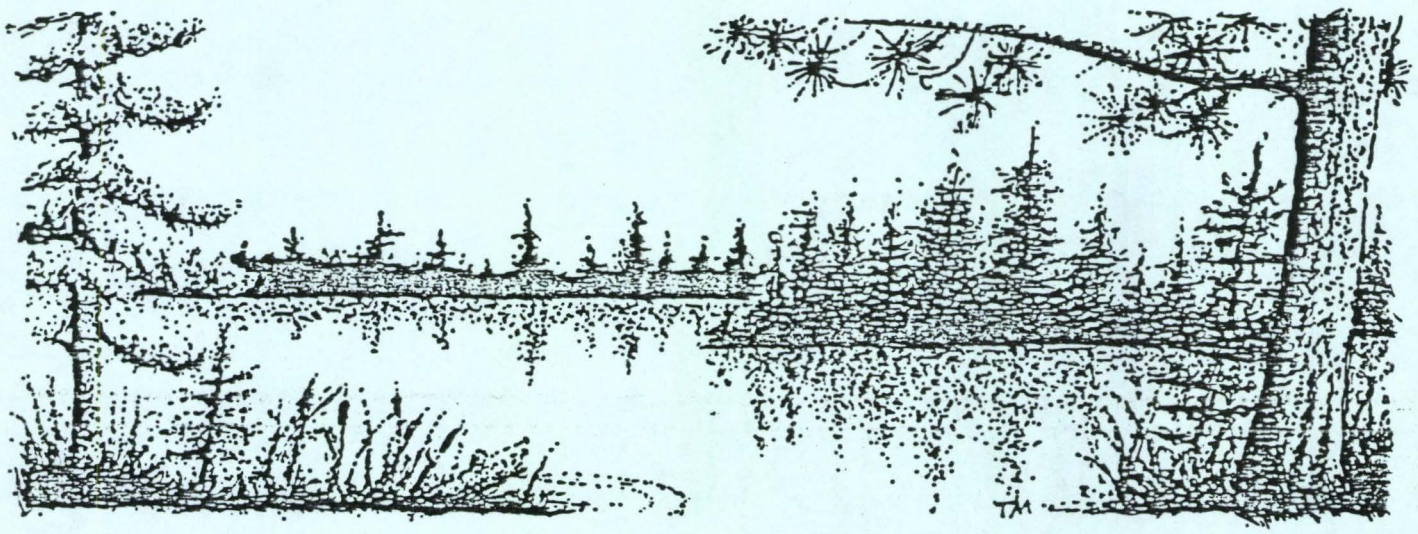
Analysis of six areas was needed to decide whether a Rice River Management Plan should be made and followed. These include:

1. Demand for a canoeing route.
2. Capability of the area to provide the natural resources needed.
3. Present and projected use levels.
4. Cost of construction and maintenance of the Rice River canoe route.
5. Local interest and support for the project by the business community, and general publics (distribute questionnaire). See Appendix A.
6. Possible opportunities to develop partnerships to do maintenance and provide interpreation.

A literature review provided the basic demand, use, and projected use data. A questionnaire that was circulated in the local community was also analyzed.

Meetings were held with Minnesota DNR and Chippewa National Forest personnel, which resulted in agreement of the procedure to be followed in determining the project viability. Meetings were also held with the local resort and tourism associations, township boards, and interested individuals to inform them of the proposed project, and to ascertain their interest in, and support of, the project.

ANALYSIS



Chapter IV

CHAPTER IV - ANALYSIS

TRENDS

Demand

Establishing user demand for a canoeing route in a specific area in Northern Minnesota is less than an exact science. However, some surveys and studies have been completed which may be applicable.

The 1990 Draft Resources Planning Act (RPA) provides several determinants of demand for outdoor recreation. Some positive factors have been the growth in both population and income, the leisure time available, the increasing participation by women in outdoor activities, and the increasing number of retirement age people. The projected participation patterns by activity are changing, and the national recreation strategy will emphasize new programs that involve the private sector. Recreation use increase is expected to be greatest near roads.

The 1980 Assessment projected a nationwide increase in demand for land based outdoor recreation activities of 61 percent between the years 1977 and 2030. The North Central Region is projected to have an increase in demand of 58 percent in the same time period. Not all of the increase will be canoeing, of course, but the canoeing/river floating/boating demand index is expected to increase 59 percent using the medium projection level in the assessment.

Minnesota Statewide Comprehensive Outdoor Recreation Plan (SCORP), 1990, surveyed 5,700 Minnesota households. The primary activities are walking/hiking, biking, fishing and driving. Minnesotans recreate an average of 225 hours/capita per year.

According to the SCORP, recreation is seasonally pronounced in Minnesota. Summer is only 17 weeks in length, but over half of all outdoor recreation takes place during that season. Age strongly influences the amount of time spent on outdoor recreation.

Nonresident activities are more centered around water, which is similar to Minnesotan activites while on vacation in-state. The most popular nonresident activities are fishing, camping (often near water), swimming, and boating. The most common nonresident destinations in northern Minnesota forests are areas with water.

A 60 percent increase in total recreation use by both residents and nonresidents is predicted in the North Central Minnesota Lakes area (1985 to 2000). SCORP and RPA conclude that vacations will be increasingly planned around long holiday weekends, and thus people pressure will tax recreational facilities during short periods. River protection and management programs will receive added protection under Minnesota's newly revised Shore Land Management Rules. The Minnesota DNR's Canoe and Boating Route Program, and the Minnesota clean Rivers Project, enlists the aid of local volunteer groups, citizens organizations, service clubs, and others who share an interest in cleaning the States riverways of trash and litter.

One of the many goals is to "protect and manage" water - related natural resources. According to a survey conducted in 1988 by the DNR and the University of Minnesota, 73 percent of the State's boat owners used a water access in 1987. Besides boating, many indicated that they used public water access sites for swimming (32%), shore fishing (29%), and wildife observation (24%). "Smaller, locally-significant lakes and rivers should also receive high priority for development where access is limited." Environmental education is

increasingly recognized as the key to protecting and preserving Minnesota's environment and natural resources over the long term.

The SCORP (1985) study also predicted that canoeing in the North Central Minnesota Lake Area would increase by 50 percent (1980 to 1995). A facility needs assessment in Minnesota DNR Region 3 indicates that water facilities needs in Region 3 are greater than the state wide water facility needs (Blank and Simonson, 1980). See Appendix B.

The "A Needs Assessment of Tourism Firms Serving the BWCA Wilderness Vicinity in 1980", indicated that tourism is a major generator of economic base in the area, and at that time, the economy was in a latent state. The study indicated that a National Market exists for the recreational/vacation experiences available in the area. Strengths include adjacent woods and waters outside the BWCA, and the urbanized communities in the vicinity. The study concluded by suggesting that State and Federal agencies that administer the public resource could provide economic stability through new efforts to assist in recreation resource management and targeted public marketing.

More locally, the Chippewa National Forest Land Management Plan recognized that there would be an increase in demand for semi-primitive recreation experiences. Until the mid 1980's, people pursuing a semi-primitive nonmotorized recreation experience, and those wishing to use motorized vehicles for recreation purposes, had been able to do so over much of the Forest without serious conflict. In order to address this growing conflict, the Forest Plan prescribed nonmotorized areas and motorized areas. Reaction to this generated mixed feedback. The Rice River canoe route was recognized in the Forest Plan as an area which could retain its semi-primitive character, and also allow for motorized activity. A majority of the use is by canoe, however, small boats with motors are allowed. This responds to the segment of the public

which may be older, and also provides for traditional uses of the river such as trapping and hunting.

The President's Commission on Americans Outdoors looked at future outdoor recreation. Nationally, recreation demand will be fueled by population factors, percapita real income, amount of leisure, and availability and cost of travel. Secondary factors include the changing status of women in our society, two income families, later marriages, fewer children, single parent households, longer life expectancy, and earlier retirements. These characteristics provide increasing sophistication in market segmentation as the leisure industry competes for the discretionary leisure dollar within demographic segments. Of particular interst is the group of "baby boomers" because they will soon be entering the early middle age bracket. Increases in particiaption are most likey to occur in activities such as canoeing and kayaking. These activities have broad appeal for the baby boom generation...typically available to a broad economic segment of the population, and can usually be found relatively close to home.

Conclusions:

Outdoor recreation has been, and probably always will be, a very important part of American life. The type of recreation activity pursued will be uneven, and participation rate increase will not be as sharp as those of the 1960's and 1970's, but will persist. While ours is an aging society and canoeing participation declines with age, the trends are obvious. The rate of increase in a canoeing experience may approach a near level trend because the "baby boom bubble" has passed through the pipeline, but the fitness fad is working to counteract that effect. Cordell reported that activities requiring aerobic conditioning have had a rapid increase of over 3 percent per year since 1960, and that fitness as a lifestyle will probably continue into the 1990's.

That factor itself could recruit new canoers, and also retain persons who are beyond the normal canoeing age class, 12-45 years old, keeping the number of participants at reltatively high levels.

A demand for canoeing opportunities exists in northern Minnesota. Canoeing is popular with residents as well as nonresidents. The experience desired is not limited to fishing. In fact, the data suggest that users gain satisfaction from other amenities such as wildlife viewing, learning about the environment, and exercise. A shorter workweek, more holidays, and higher quality recreation expectations by the recreation publics, will challenge the recreation manager.

RESOURCE CAPABILITY

The Multiple Use Management Guide for the Marcell Ranger District, dated 1972, stated the Rice River Route needed to be developed by the Forest Service. It discussed the need for dispersed rest areas, as well as camp sites, and the need for signing along the route. I learned in conversation with retired Marcell District employee Tuulo Koski, the Rice River Canoe route was opened up for the first time in the late 1960s, and work at varioius campsites was intiated shortly thereafter. According to Tuulo, public interest in use of the Rice River prompted in the Forest Service efforts. At that time most of the use was from local publics desiring to float the river. The Chippewa National Forest Land Management Plan discusses the Rice River as currently maintained by the Forest Service. It identifies the associated facilities along the route, such as undeveloped landings and dispersed camping sites, and directs that they will continue to be maintained. Several canoe routes on the Chippewa National Forest (CNF) have been designated as canoe routes by the Minnesota DNR Resources. Even though the Rice River was not listed as a state designated canoe route, the CNF Plan lists it as a potential for inclusion on the state canoe system.

Portions of the Mississippi River and Minnesota River have formal managment plans written by the DNR. Both discuss four qualities of a river that would be a basis for selection as having high potential for offering river users the experience and setting they envision. They are: Scenic, Historical, Recreational, Natural and Scientific.

Area Evaluation

How does the Rice River and its corridor, measure up to these descriptions and criteria?

Scenic:

Patricia E. Navratil in her book entitled "Trails Through the Northwoods", quotes an article in the local paper, The Rapids Magnet of June 11, 1891 -

> Itasca County is among the last outposts for grants of land under the Homestead Act of Congress. It will take years to convert its dense forests into tillable lands, but such conditions are favorable. Rich native grasses furnish abundant pasturage, and when cut and cured will carry through the winter. This County is the best watered in the State, having many lakes, rivers, and creeks, none too low or wet for agriculture, or is not susceptible to easy drainage. The environs of the County are inviting to those compelled to seek recuperation from impaired physical powers!

The Chippewa National Forest Land Management Plan explains that examples of almost all land forms resulting from glacial deposition, are found within the CNF. Various kinds of moraines, along with outwash plains and deltas, glacial lake plains, kettle holes, tunnel valleys, and other glacial features, are common. Peatlands are also common. The Rice River connects a number of smaller lakes, as well as streams, as it begins its journey to Hudson's Bay. Terrain adjoining the Rice River varies from near flat to timbered ridges several hundred feet in elevation.

Vegetation reflects the Forests position near the boundaries of three major vegetative communities - the coniferous forest (pine, spruce, and balsam fir) to the north; the hardwoods (aspen, birch, oak, black ash, and maple) to the south; and the prairie to the west. The Rice River vegetation reflects that of the northern hardwood forest, and welcomes you to the land of color - showplace for Mother Natures annual fall spectacular. The mixing of color and texture provides a desirable visual contrast. Many riverside areas appear virtually unchanged from their original condition. Without proper managment of this unique natural resource, however, the scenic qualities of the Rice River will be jeopardized.

Historical:

Rising near the Continental Divide and flowing north to join the Bigfork, the Rice River was at one time one of the routes from Hudson's Bay to the waters of the Mississsippi. Explorer Zebulon Pike's map shows it was in use during the early 1800's. Centuries of use by primitive hunters and historic Indian tribes had established a path which was followed by French, English and American explorers, trappers, and fur traders.

By 1850, the days of the great fur companies were past. The Chippewa, who had helped harvest the bounty which poured into the log store houses at Grand Portage, Fond du Lac, Rat Portage, and Sandy Lake were mostly restricted to the reservations. The portages became dim and the beaver, undisturbed, rebuilt their dams and lodges. Time brought a new breed of explorer: From 1867 to 1875 surveyors came over the old trail to map the wilderness into townships and sections. They were followed by timber cruisers sent by the lumber companies, to search out the untouched stands of pine which still towered along the shores of the lakes and rivers.

About 1890, the Kehle and Dear Logging Company came into the area. Since the supply of pine seemed inexhaustible, they took only the butt logs of the white pine. These were moved by oxen to the Rice and Bigfork Rivers, and floated down stream to the Say Mills at Internationsl Falls. By 1900, the Keewatin Lumber Company had entered the picture. They built sluice or "splash" dams on the Rice at the Cameron Lake outlet, Farm Camp, Thundstroms, and the Skunk Farms. This same year the area was opened to homesteading.

Within a few years, homesteaders followed the lumberjack up the Mississippi and Prairie Rivers, following the chain of lakes across the Divide to the Rice and Bigfork Rivers. After building their cabins, these hardy pioneers set about the backbreaking task of clearing the land. Many worked at logging during the winter, and spent the rest of the year expanding and improving their farms. Among the first were Thydean, Edmond, Lauchoh, and Thundstrom who came into the area between 1905-1907. The Minneapolis and Rainy River Railroad, dubbed the "Gut and Liver" by rugged woodsmen, brought more. "Tote" roads replaced the rivers and lakes as means of access. By 1925, the log drives on the Rice had passed into history. The four horse team and logging sleigh had been replaced by trucks which hauled the remaining logs to small local mills.

During the 1930's, nearly a million board feet of "dead heads", logs lost on the drive, were salvaged from the sloughs and lakes along the route of the old drives. Because it had been submerged, the wood was still usable. Today, another gerneration of trees has covered the old campsites and some of the early farms.

Recreation:

A zoo, without bars or moats - a wildlife compound without fences - a natural science classroom covering thousands of acres. Any of these descriptions

could be applied to the Rice River area, an area where you can observe firsthand, a wide variety of wilderness creatures in their home surroundings. With a little study, stealth, patience, and planning good fortune, you may observe, and even photograph, quite a few of these untamed species. Included in the list of creatures you may encounter are deer, bear, moose, beaver, loon, and several types of ducks. While most Americans never get to see a bald eagle in flight, this area boasts one of the largerst bald eagle populations in the continental U.S.A. A good bit of information to know also while canoeing the Rice River is that poisonous snakes are non existent in this area!

While the CNF boasts of large walleye factory lakes, the Rice River connects with numerous smaller size lakes of panfish (crappies, bluegills, and northern pike). The recreation opportunities are more semi-primitive in nature and provide a contrast to the large motorboat experiences. Here the pace is slowed, and allowance on the river is given to those who truly seek out natures wealth. In recent years public comments at CNF and other National Forests, indicate that the demand for this type of experience is increasing nation wide and also in northern Minnesota.

In its 1990 publication entitled "1000 Grand Lakes", the Grand Rapids Area Visitor and Convention Bureau, highlighted the importance of an canoe experience. It's a pleasant release from the noise - the clamor - the pressure of modern life; just you, a paddle, a canoe and nature. Relax, enjoy the sun - the air - the early-morning fog - the shimmer of sunset across the waves. Or challenge yourself: "rough it" a little, tackle some rapids, see how far you can go under your own power. It's do-it-yourself recreation. You pick the time, the place, the conditions. It identifies area canoe trails as offering a good view of the area, is exciting and wild. Canoeists will find rapids thrilling to shoot, yet not dangerous. Canoeing is a good way to get in touch with your heritage. Many stretches are essentially the same as they were

in the days of the fur traders. It doesn't take a lot of imagination to visualize the waterways as they looked to the Indians, explorers, voyageurs and missionaries over the last 300 years. And, from that perspective, its sometimes easier to get a more objective view of today.

The Rice River Area is accessed from the north and south by Minnesota State Highway 38. It is a two-lane, asphalt paved highway originating at Grand Rapids Minnesota. Highways 2 and 169 are major highways linking up with population centers of 3-6 million people, with 4 hours driving time. The 22 miles within the Chippewa National Forest that Highway 38 passess through, has been declared as a National Forest Scenic Byway. The Highway is the main route north from Grand Rapids to the recreation communities of Bigfork, Effie, and Marcell. Travelers of this route are truly on the "Edge of the Wilderness," a theme adopted by these towns. Other sites accessed include Scenic State Park, Soumi Hills semi-primitive areas as well as the Bigfork River. The natural beauty of the area offers ample opportunities to further develop the interpretation of this areas historic heritage.

Natural and Scientific

Lands adjacent to the river reflect a wide variety of natural amenities that, in combination, make the Rice River a valuable natural and scientific area. Perhaps the most important feature of scientific interest in this shoreland are the geologic features of high banks and long ridges. Diverse and numerous waterfowl include wood ducks, Canada geese, blue-wing teal and mallards. The numerous rice fields along the route offer a natural setting that can relate stories of the early Ojibway Indian tribes gathering wild rice to store for winter or trade. The Rice River route offers an excellent opportunity for interpretation of areas like East Lake Pines (old growth pines), homesteads of

the past, native Indian burial mounds, loon activity and moose feeding areas as well as Bald Eagle viewing. During a night out at one of the dispersed sites one could hear wolves howling in the distance. Education programs for local schools via canoeing are possible on the Rice River. An excellent opportunity exists for environmental education programs due to its casual and steady flow.

The data collection effort consisted of meeting with local service organizations as well as the North Itasca Joint Powers Board from Bigfork, Minnesota. Personal interviews were conducted with Bob Moore, Minnesota DNR, Grand Rapids, Minnesota, as well as Larry Simonson, North Central Forest Experimental Station, Grand Rapids, Minnesota. An extensive literature review was made, and it became obvious that much data regarding customer needs and desires for canoeing in the Boundary Waters Canoe Area exists; however, not much data exists for North Central Minnesota. A number of comments were received to suggest that management of the Rice River in the past was not acceptable. Safety and clear passage from one access point to another was listed as a major issue. A questionnaire was distributed at two meetings during the winter of 1989. The intent was to obtain at least thirty responses, however only eleven were returned. The questionnaire was distributed at the Bigfork Lions club and Joint Powers Board meeting. The purpose of the questionnaire was to obtain an indication of interest and recreation desires for the Rice River. A majority of the respondents were over forty years of age.

Table 1: SUMMARIES OF INTERESTS OF THOSE WHO DESIRE FLOATING THE RICE RIVER

Activity	Percent of Respondents Indicating Interest
Floated Rice River in Past 3 years	63%
Desire Canoe rather that Boat	90%
Favor Natural Setting	73%
Not concerned if meet other canoers	94%
Desire a trail that parallels the River	48%
Interpretive Brochure	90%
Interpretive sites marked en route	80%
Use of River for solitude, exercise	60%
General overall improvement needed	70%

Please be aware that the sample involved a limited number of people. Ricing on the Rice River was discussed quite often during conversations as an opportunity that should be explored. At present, the only interpretive service provided is a brochure that is outdated.

CONCLUSIONS

Using the broad subjective criteria that was utilized in the Mississippi and Minnesota River management plans one concludes that the Rice River is highly suited for management as a Canoe Route. It measures up well against the natural resource criteria which were identified as critical to development of a management plan.

The Rice River Canoe Route is currently used by local publics for a variety of reasons ranging from trapping, wildlife viewing, wild rice gathering, fishing, canoeing for exercise, and for the peace and solitude the canoe route offers. Although the Rice River is not listed as a canoe route by the DNR, Robert Moore Grand Rapids Area Trails and Waterway Manager, supports management of the Rice River, and explains it will compliment the Bigfork Canoe Route which is designated by the State of Minnesota. Mr. Moore supports management of the Rice River Canoe Route.

In addition, because of the private ownership near the north end, and the fact that the Rice River Canoe Route flows through the City of Bigfork, it lends itself to classifying areas under the Recreation Opportunity Spectrum (ROS) system, and to variations in the canoe route standards and facilities. Because of the mix of private, County, State, and Federal lands along the Rice River, a management plan will be an opportunity to enjoin various agency input and gel it with the desires of the canoe route user.

ESTIMATED COSTS

Construction

Costs for managing the Rice River include direct improvement costs, as well as indirect costs associated with signing and interpretation opportunities. Much of the work is labor intensive, involving hand tools and manpower instead of mechanical machinery. Installation of a number of signs will be by canoe or small boat which requires that special safety precautions be followed.

For purposes of this study, estimated costs for maintenance, and initial brushing out of the Rice River, was obtained from actual use records from previous years projects. Costs for construction and installation of signs, as well as work planned at the access points, were obtained from discussions with Bob Moore, Minnesota DNR, and Chippewa National Forest Land Management Plan (Personal conversation with Dave Wright).

The total Length of the Rice River from Clubhouse Campground to Bigfork River, access at Bigfork, is 19 miles. Additional side trips which compliment the Canoe Route are approximately 1 mile in length for a total length of 20

miles. River miles of various potential termini are--

Clubhouse CG to Cameron Lake	4 miles
Cameron Lake to Co. Rd 254 Bridge	7 miles
Co.Rd 254 Bridge to City Limits of Bigfork	7 miles
City of Bigfork	1 mile
	19 miles

There are five additional opportunities along the Rice River canoe route that provide access into adjacent small lakes. These include:

East Lake Access	.2 mile
Canoe Lake Access	.1 mile
Batson Lake Access	.2 mile
Beaver Lake Portage	.2 mile
Lauchoh Lake Access	.3 mile
	1.0 mile

IMPROVEMENT COSTS

During 1989, the Rice River canoe route was inspected. Much of the route needed heavy deadfall clearing and brushing out in order to allow passage by canoes or boats. A grand effort was made by Marcell Ranger District employees and local volunteers to clear the river from start to finish, however, several stretches still require heavy clearing. Estimated costs to initially clear heavy deadfall -- $500 per mile.

Cameron Lake to Co. Rd. 254 Bridge	
Mile Post 5 to Mile Post 7 = 2 miles	$1000.00
Mile Post 8 to Mile Post 11 = 3 miles	$1500.00
County Rd. 254 Bridge to Bigfork	
Mile Post 13 to Mile Post 14 = 1 mile	$1000.00
	$3500.00

The following amenities are indirect costs for improved facilities along the Rice River Canoe Route. These are required to compliment the recreation experience that our customers are requesting be provided. These amenities respond to all market segments.

Clubhouse CG to Cameron Lake

Portal Sign at Clubhouse (two side bulletin board w/map and info)	$ 2,000
Handrails inside Culvert on Clubhouse Road FR 2691	$ 1,000
Carry-In Access at Copenhagen Lake (gravel road on hill, lake sign, canoe route sign)	$ 1,000
Sign on Shore at Jct. Copenhagen Lake/East Lake	$ 200
East Lake Pines Sign..and trail with intrepretation	$ 3,000
Dispersed Campsite at Cameron Lake (new)	$ 4,000
	$11,200

Cameron Lake to County Rd. 254 Bridge

Dispersed Campsite below Cameron Lake(upgrade existing site)	$ 3,000
River gauging station at Farm Camp Bridge	$ 150
Sign on Bridge	$ 100
Construct Access to Rice River at Farm Camp Bridge	$ 5,000
Rework railing and rock wall at Farm Camp Picnic area (install picnic table, rehabilitate site)	$ 5,000
Construct Dispersed site near Thundstrom Homestead (upgrade)	$ 2,000
Construct Access to Rice River at Co. Rd 254 Bridge	$ 5,000
Install River gauging station on Co. Rd. 254 Bridge	$ 150
	$20,400

County Rd. 254 Bridge to Bigfork

Construct Dispersed campsite below Co. Rd. 254 Bridge (upgrade)	$ 4,000
Construct dispersed Campsite below Rice Lake (new)	$ 3,000
Install River gauging station at Bigfork Bridge	$ 150
	$ 7,150

City of Bigfork

Construct hiking trail - 3/4 mile East/West side of Rice River	$ 2,000
Planting of Native shrubs and trees along Rice River	$ 2,000
Clear picnic area, construct and install benches along Rice River trail for wildlife/waterfowl viewing	$ 5,000
Install boardwalk into wetland for interpretive walk	$ 1,000
Install Fish Pier for handicapped and youth	$ 5,000
	$15,000

Additional Costs for resource support items include:

Mile Marker signs (placed on Shore w/Rice River Canoe Route Logo) 40 signs, include posts	$ 2,000
Complete Rice River Canoe Route self guided brochure	$ 2,000
Rice River Canoe Route signs (installed at all access and dispersed sites) 50 each (See Appendix C)	$ 1,000
	$ 5,000

Total Improvement Cost $62,250

Maintenance

An average of $100/mile is the projected annual maintenance cost. These costs were determined by estimating past expenses incurred and through conversation with Minnesota DNR Trails and Waterways.

Because of the seasonal demand and fluctuating water levels it was determined that the Rice River Route be maintained twice each season. Spring maintenance will be most important to open up any log jams, windthrow, and gain a general awareness of the condition of the Rice River canoe Route. Summer maintenance is important after the higher water levels of spring have subsided. During this time, logs not visible in the spring may be cut out, plus any added withthrow which occurred.

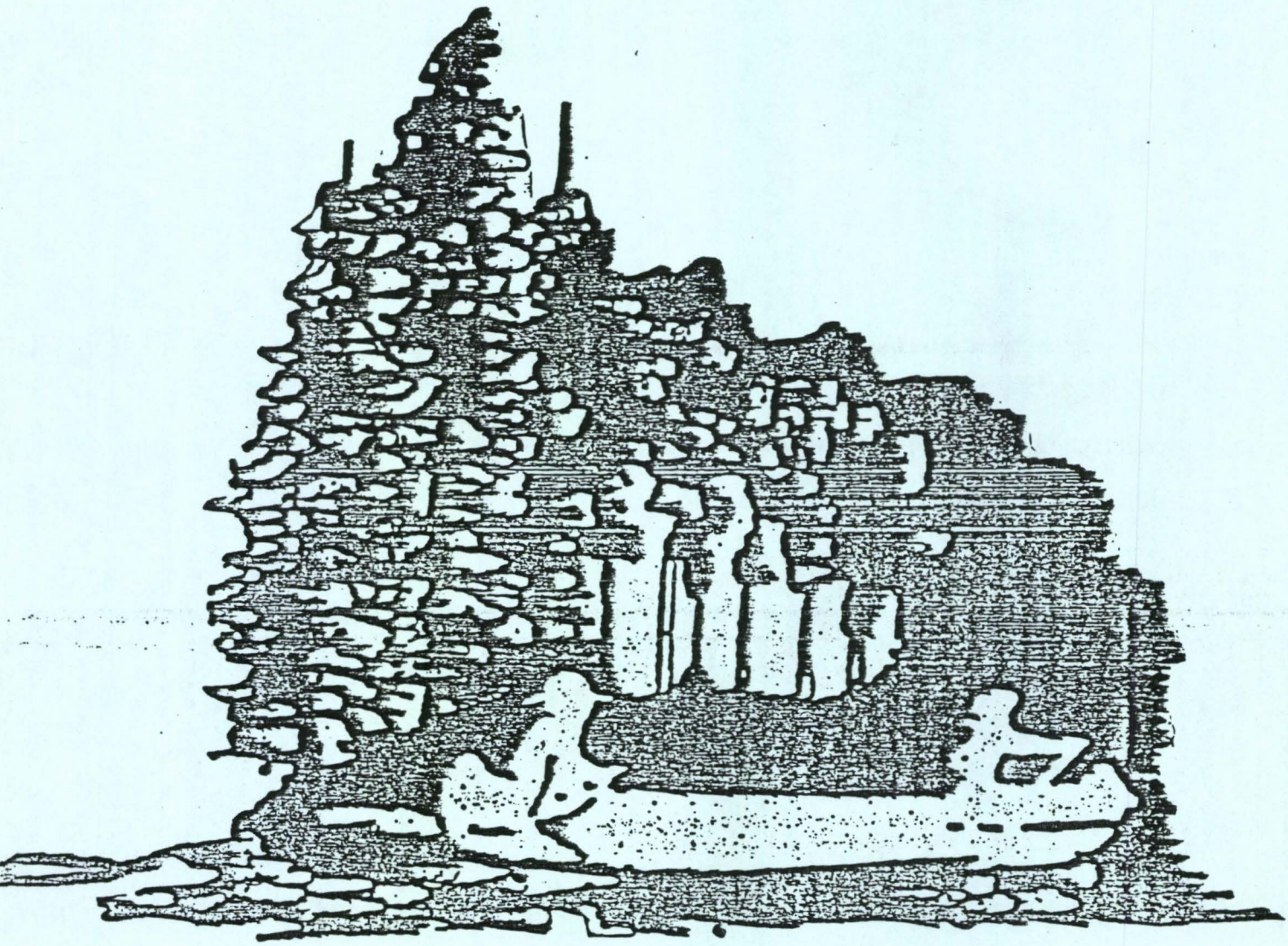
Spring Maintenance--- $100.00 per mile
Summer Maintenance--- $ 50.00 per mile

Total length = 20 miles. Spring Maintenance = 20 miles x $100/mile = $2000.00
Summer Maintenance = 20 miles x $ 50/mile = $1000.00

Projected Annual Maintenance Costs = $3000.00

This estimate of costs is the amount of investment to meet the desired future condition for management of the Rice River. Volunteer labor, donated materials, and special group projects have proven to be successful in reducing costs.

DISCUSSION/SUMMARY



Chapter V

CHAPTER V - DISCUSSION/SUMMARY

The Grand Rapids Area Visitor and Convention Bureau has placed emphasis on tourism for the north central Minnesota area it represents, and to market the areas attributes rather than one specific recreational experience. The group strongly believes that visitors, as well as local users, truly value the outdoor qualities of esthetics, wildlife, exercise, photography, and many other activities in addition to the fine fishing the area has historically offerred.

A front page article in the Duluth News Tribune dated November 6, 1989, discusses the importance of protection of the Mississippi River from its headwaters to the Gulf of Mexico. A Federal Bill under consideration could lead to National Heritage Corridor designation for all 2400 miles of the Mississippi. The article stresses the importance of protection and cooperation between all "Federal, State, local and regional agencies - each now regulating bits of the river - together to form a cohesive plan for the waterway". The article reminds us of the importance of our waterways, and that they are being given national attention and identified as an indicator of the general condition of our environment.

Portions of the Mississippi, Minnesota, St. Croix, Crow Wing, and other Rivers in Minnesota contain management plans for their use and protection.

Itasca County Land commissioners have just recently identified a need to study the Bigfork River and has let a contract to develop a management plan for the Bigfork River. An emphasis is to develop a strong management program tailored to the special needs of the River and local residents.

Blank and Simonson found in their study of the Crow Wing Canoe Trail that a 75 mile segment provided over 80,000 person days of recreational use. These recreationists spent a total of $305,000 in the area. The recreational use includes 26,000 person days by local residents. The river is commonly referred to as a canoe trail, but there is even more use for other purposes (picnicing, camping, fishing). The person day comparisons are: 31,000 canoeing and 35,000 other use. "Observing nature" ranked next to camping and canoeing as a recreational activity. The natural vegetation and water quality ranked at the top of features they liked.

Cordell,(1989), summarized the economic significance of recreation of National Forest, and noted that the estimates indicated an aggregate value of over $122 billion per year to recreation customers. By comparison, the aggregate value of roundwood timber harvested per year is estimated at $13.2 billion. Research conducted for the 1989 RPA Assessment values selected kinds of opportunities typically found on National Forests. Canoeing/Kayaking is valued at $20.66 per person per trip. See Appendix D.

Minnesota Clean Rivers Project, sponsored by the Minnesota DNR, emphasizes the importance of clean waters, and through the "Clean up our Rivers" program are obtaining volunteer organizations to assist with clean up and general maintenance of Minnesota Rivers. One coordinator emphasized that "not one major river or stream flows into Minnesota. So, we're a source. If we pollute, we pollute for others, and we have nobody but Minnesotans to blame". The DNR boat and water safety program has provided funding to eliminate safety hazards on non-designated rivers such as the Rice River. In 1988, a 2 person DNR crew cleared deadfalls and hazards on several miles of the Rice River.

Expressions of need by operators of resorts, businesses and Chambers of Commerce of the tourism industry, indicate a broad based interest in providing additional canoeing opportunities. Support other than financial responsibility for the total project could be expected. Volunteerism is beginning to gain momentum. Individuals, as well as groups, have come forward the past several years and requested to assist in the management of the Rice River by helping with cleaning and upgrading of the River. River canoe organizations from Minneapolis have contacted the Marcell Ranger District requesting to provide assistance in River management. See Appendix E, World of Partnerships.

Officials from the City of Bigfork are excited about the opportunities of multiple agencies participating on management of the Rice River extending from a rural setting to an urban setting, but still maintaining the Rice River's natural qualities. The Northern Itasca Joint Powers Board, consisting of 5 township governments, has given support for the project. Some members assisted in clean up projects in 1989 and are excited to see opportunities for follow-up.

Local businesses have participated in cooperative efforts in the past and have expressed an interest in organizing a Rice River Users Group to provide consistent oversite and assistance in management of the Rice River.

RECOMMENDATIONS

1. Undertake management of the Rice River. Criteria for such an undertaking have been met. In addition, public support for the project is enthusiastically present.

2. Incorporate that section of the Rice River that flows through the City of Bigfork. This study has identified a need for improvements in the City of Bigfork as well as other ownership. Implementation can commence in separate lengths of the River and still remain consistent with overall management of the River.

3. Establish of a non-profit organization, called perhaps, The Rice River Users Association. The duties would be:

    a. Develop a marketing plan for initiating a coordinated effort for annual maintenance and completion of the projects.

    b. Assist in administration of canoe route development funds.

    c. Monitor activities associated with the Rice River Canoe Route and make recommendations of any changes desired.

    d. Promote and market the Rice River canoe route.

4. The Chippewa National Forest should be the lead Agency in management of the Rice River Canoe Route. The Minnesota Department of Natural Resources is a cooperator. The Rice River Users Association could participate in fund raising programs.

5. Keep the canoe route open to small motor boats in addition to canoes. Due to marginal stream flow during the summer months, canoe use is emphasized, in order to promote the semi-primitive experience and compliment the remoteness of the area.

6. Keep the canoe route as an opportunity to interpret the natural values of Northern Minnesota. An updated self guided tour brochure needs to be completed.

7. All man made improvements should display a semi-primitive theme.

8. Contacts with volunteer organizations and clubs interested in assisting with constructing and maintaining the canoe route, should be established by the Association to enlist the help that will be needed.

9. Initial effort should be made to brush out and clear out the remaining segments of the River. This will provide the basic safety needs for users.

10. Initiate "adopt a segment of the Rice River" program.

11. Marketing efforts should be directed at working with the Grand Rapids area Chamber of Commerce as well as City of Bigfork.

12. Utilize the Forest Visual Quality objective of Partial Retention along the entire corridor on National Forest lands.

Some additional research needs identified include:

1. A survey with larger distribution would be desirable for more thorough statistical analysis. This would be helpful in determining customer needs.

2. Explore opportunities for contracting the improvement work identified for the Rice River Canoe Route.

3. Work with private landowners along the Rice River Canoe Route to gain support for protecting its natural qualities and consistent management.

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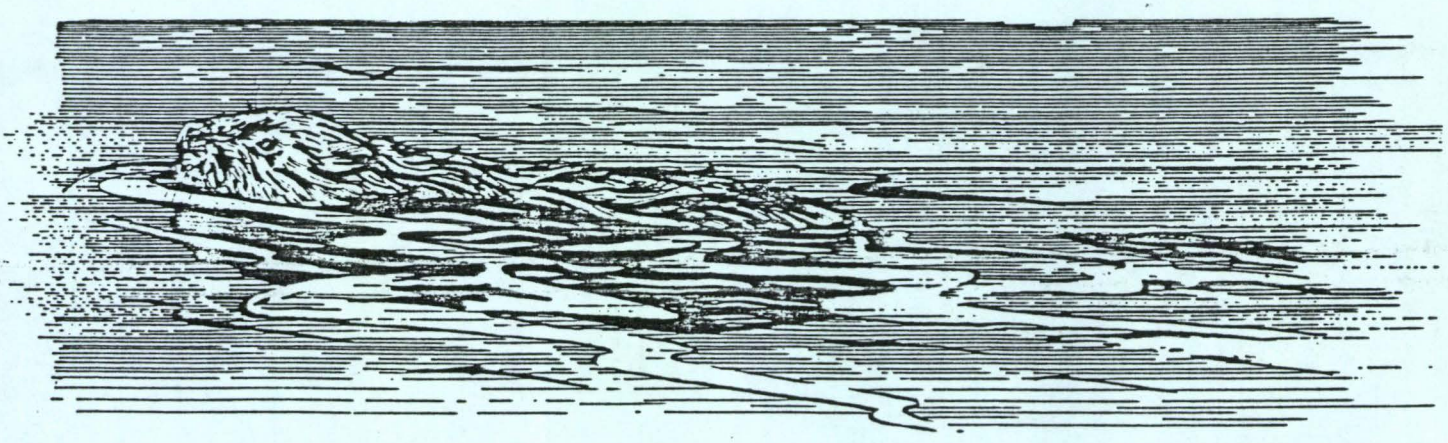

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APPENDICES

APPENDIX A

QUESTIONNAIRE

1. Within the last THREE years, how many times have you floated the Rice River?

2. On the average, how long was each float trip?

3. Do you prefer to use a canoe or boat?

4. Would you like to see the Rice River intentionally managed, if it remained in a Natural setting?

5. Is it important to you that the Rice River corridor be managed in concert with the natural setting of the River? Do you mind viewing clearcuts from the river?

6. Would you mind seeing other users on the river during your float trip?

7. Would it be desirable to provide a parallel trail near the river? If so, what type of use?

8. Would you desire that cultural and historical sites along the route be identified via a brochure?

9. Would it be desirable to mark geographical and historical sites on the route?

10. Where do you put in? Take out?

11. Why do you float the Rice River?

12. Aside from needing an annual brushing out, what other needs exist along the river to improve your float trip experience?

13. What months of the year do you float the river?

APPENDIX B

Minnesota
Dept. of Natural
Resources

REGIONS

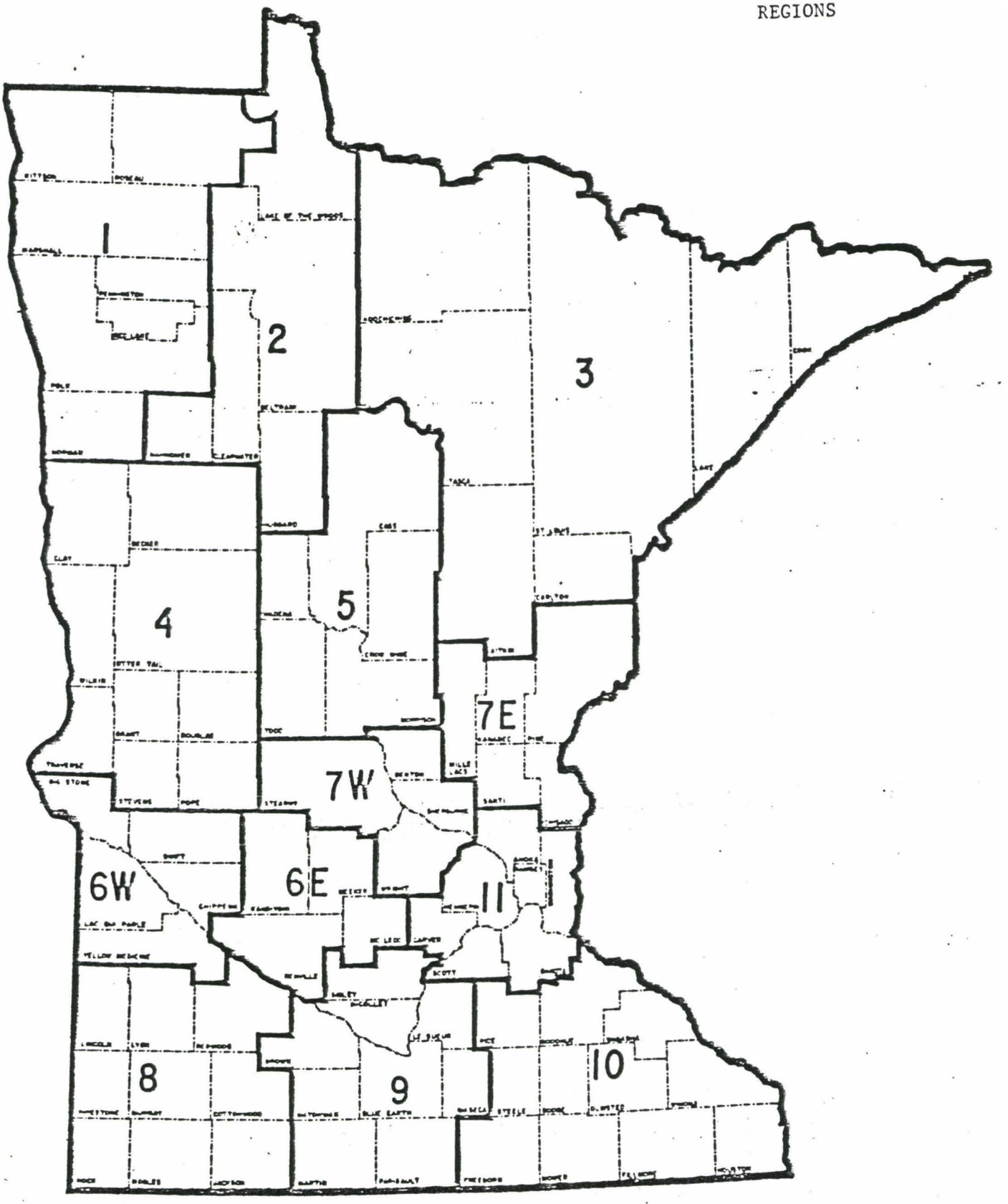
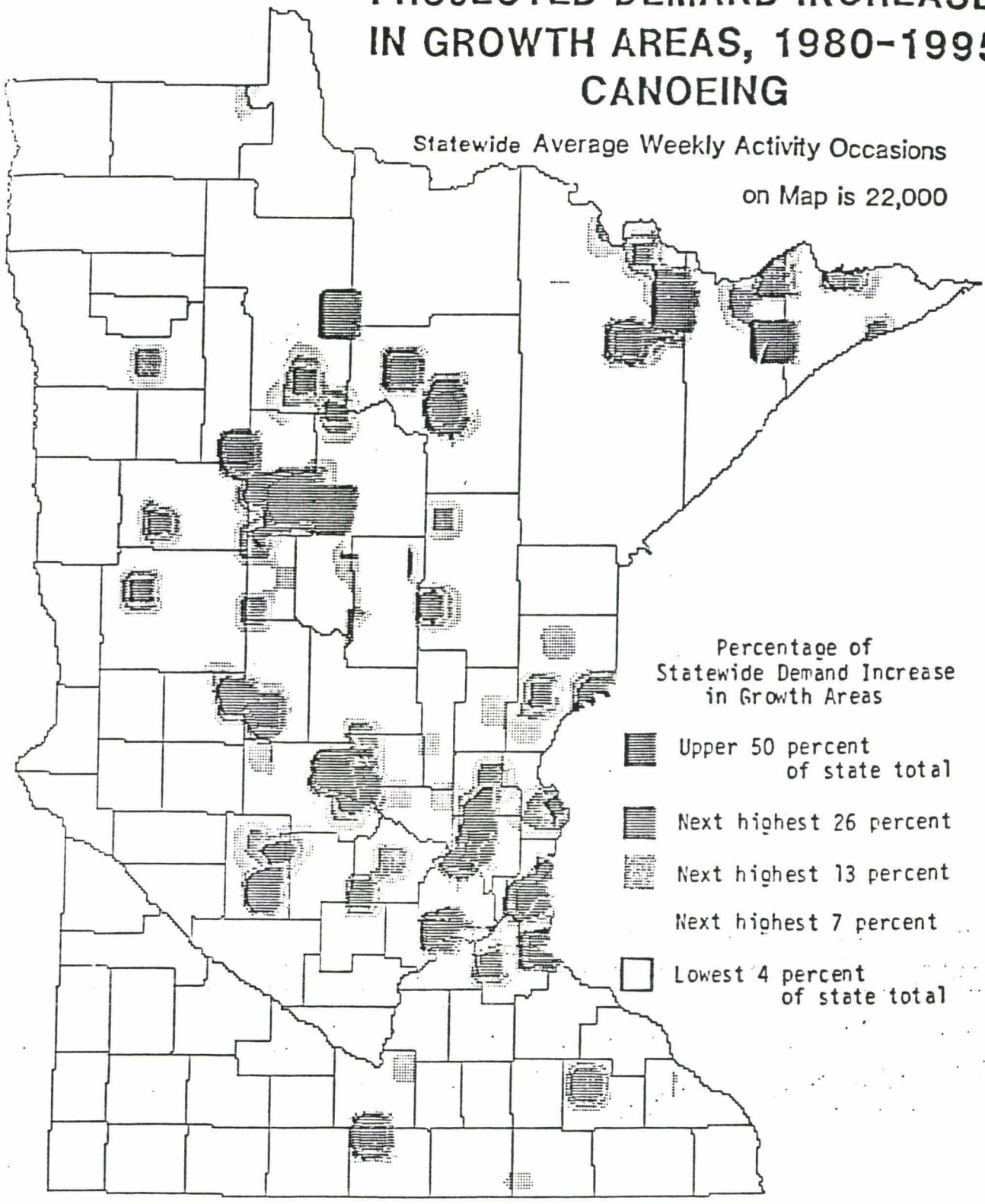


Figure B-S.06

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995 CANOEING



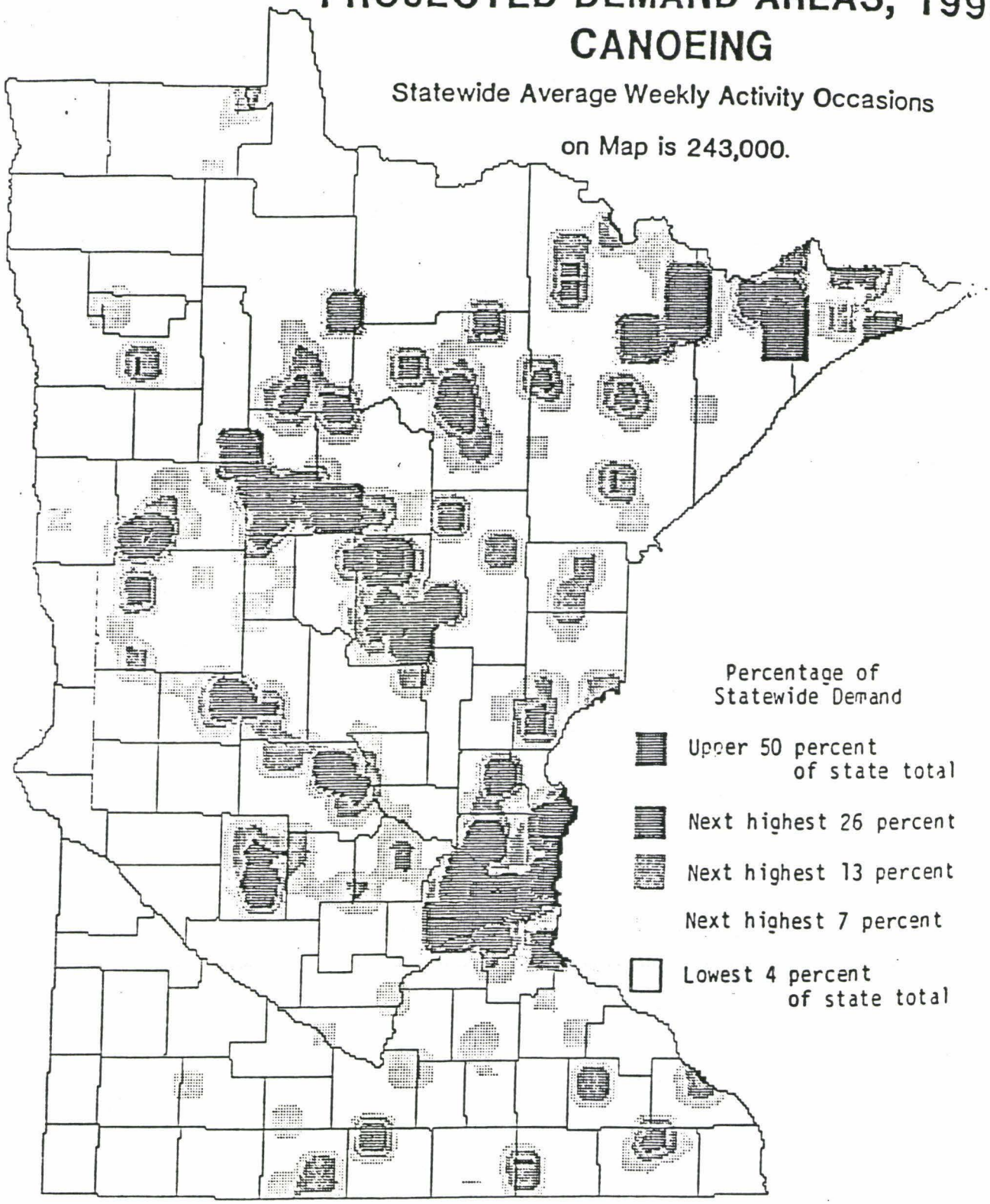
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.05

PROJECTED DEMAND AREAS, 1995: CANOEING

Statewide Average Weekly Activity Occasions on Map is 243,000.


Percentage of Statewide Demand
Upper 50 percent of state total
Next highest 26 percent
Next highest 13 percent
Next highest 7 percent
Lowest 4 percent of state total

NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

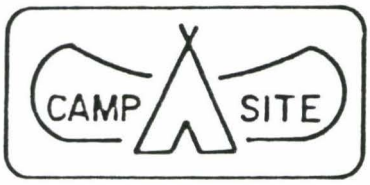
SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

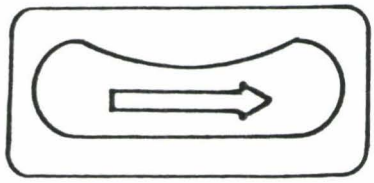
Table B-S.01: Trail Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. [a]

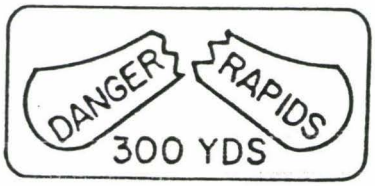
	HOUSEHOLDS													LEADERS
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Bicycle Paths	59.8%	56.6%	73.3%	61.1%	53.0%	64.7%	59.1%	58.3%	70.5%	58.2%	59.4%	60.7%	55.9%	59.5%	77.3%
Walking Paths	49.6	50.7	59.1	53.6	50.8	60.2	42.8	50.0	62.3	49.4	54.9	58.5	55.9	55.7	66.1
Hiking Trails	51.5	46.4	54.1	48.2	47.7	57.1	48.1	50.4	62.3	47.4	56.0	60.4	55.2	54.6	71.2
Canoe Routes	51.1	53.0	31.7	45.1	31.8	50.4	48.5	37.0	52.7	52.6	54.1	47.4	50.4	47.3	60.4
Cross Country Ski Trails	54.3	32.3	49.0	40.0	36.1	54.8	40.6	35.7	48.5	45.2	42.0	46.3	41.3	43.0	70.1
*Natural Park-Like Areas	51.1	49.7	52.7	46.4	47.0	54.5	45.5	44.1	61.7	43.0	49.3	50.4	58.6	54.3	54.7
*Horseback Trails	47.7	46.4	52.4	38.5	39.7	51.9	39.4	45.3	50.4	48.1	50.0	43.8	47.5	47.0	65.6

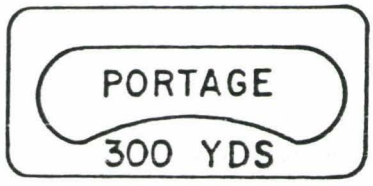
[a] Source:
Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of resident households and local government leaders.

SIGN TYPICALS









RECREATION MANAGEMENT

As it is used in the management plan, the term "public use" refers only to the use of public lands and waters within the designated river land use district. Private lands will remain private in every sense.

Public use of the river is expected to increase in the future, although major recreational uses probably will continue to be fishing, boating and canoeing. To alleviate unnecessary conflicts with property owners and other problems, recreational developments should have adequate facilities for access, camping, picnicking and other recreational pursuits.

Proposed Recreational Development

Most public recreational areas along the river are adequate. Others, however, lack facilities which should be provided to meet present and future recreational needs. Furthermore, sites for access, picnicking and camping should be located at intervals along the river which correspond to the needs of river-oriented recreationists. With a few improvements, existing areas would suffice. Only a few new sites then would be needed.

Five types of river-oriented recreational developments are recommended in this plan: accesses, campsites, rest areas, portages and river orientation centers. A single site may include more than one of these facilities.

(The recreational areas proposed in this plan are shown on the Land Management Maps. Recreational Site Typicals are shown in the Management Plan.)

Accesses to be developed along the Minnesota River will have a parking area and a boat launching facility.

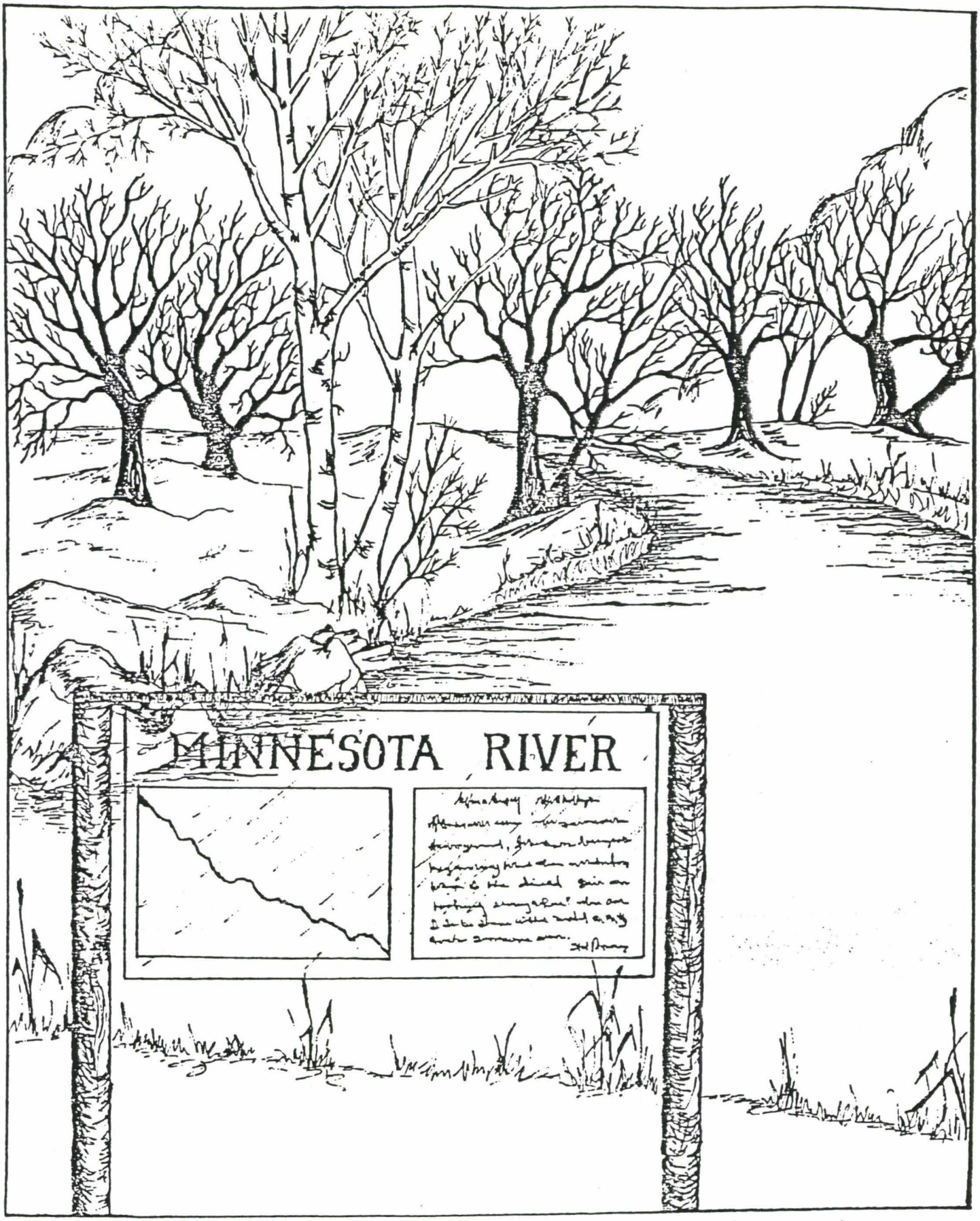
Existing campsites along the river are "modern", that is, they generally provide conveniences for many kinds of camping. The campsites proposed in the plan can best be described as "primitive," with development kept to the minimum necessary to insure public health and safety. They will be accessible only from the river. These sites will include tent pads, fire rings or grates, rustic tables and a pit-type latrine, where feasible. Each campsite will include areas for two or three tents. These sites will be constructed to accommodate more than one party while providing privacy in individual units.

Rest areas are intended primarily for day users such as fishermen, boaters, canoeists and picnickers. Most of the existing rest areas contain a full range of picnic facilities. New rest areas will be similar to primitive campsites. The clearing of brush will be kept to the minimum necessary to accommodate rustic tables, benches, fire rings or grates, and sanitary facilities.

Portages should be provided around areas through which navigation is dangerous or impossible such as the Lac Qui Parle, the Granite Falls and Minnesota Falls dams, and Patterson Rapids.

River orientation centers (see illustration) are unattended display boards with maps of the river showing accesses, campsites and other lands open to the public. Regulations pertaining to the use of public lands and waters also will be displayed. Brochures on the Minnesota River may be available. These centers will inform the user that lands not specifically identified as public are not to be used without the landowner's permission.

In addition to these facilities, the DNR also would post brown and yellow wooden signs along the river to mark hazards and public facilities (see sign typicals).



MINNESOTA RIVER ORIENTATION CENTER

OUTDOOR RECREATION CONSUMPTION

In 1987 Americans consumed almost 3.8 billion trips taken participate in a wide variety of recreational activities. These activities included picnicing (293 million trips), biking (115 million), developed camping (61 million), boating (216 million), warmwater fishing (239 million), and downhill skiing (64 million). Across all people of the United States, a total of 9.3 billion person days (any portion of a day a person spends recreating) in outdoor recreation. Almost 90 percent of the U.S. population were participants.

On National Forests, the American public consumed over 230 million visitor days at federal areas. Total trips to National Forest estimated to be almost 100 million (99.37 million). Most of these trips are taken to National Forests during the warm months of may through September. By major geographic region, 9 percent were in the Northeast, 11 percent in the Southeast, 40 in the Rocky Mountain/Great Plains region, and 40 percent in the Pacific Coast.

VALUE OF RECREATION OPPORTUNITIES TO NATIONAL FOREST CUSTOMERS

Research conducted for the 1989 RPA Assessment has provided estimates of the value of outdoor recreational opportunities to those people in the United States who participate. These estimates indicated an aggregate value of over $122 billion per year to recreation customers who take advantage of opportunities. To provide perspective, the aggregate value of roundwood timber harvested per year is estimated at $13.2 billion.

Considering only those recreational activities which typically occur on National Forests (e.g., developed camping, sightseeing , visiting historic sites, off road driving, cutting firewood, photography, horseback riding, backpacking, canoeing, cold water fishing, and cross country skiing), the estimated value to visitors, per person, per trip, in 1987 was $33.80. In total, the estimated value of recreational opportunities to National Forest customers is $3.36 billion per year.

Value of selected kinds of opportunities typically found on National Forests are:

Type of Opportunity	Value per Person Per Trip
Developed Camping	$54.90
Visiting Historic Sites	$43.20
off road Driving	$22.09
Cutting Firewood	$31.32
Day Hiking	$26.10
Backpacking	80.48
Canoeing/Kayaking	$20.66
Swimming	$29.34
Coldwater Fishing	$36.70
Downhill Skiing	$29.48

Economic Development Benefits to Local Areas

Because visitors spend for lodging, gasoline, food, services, and other items while involved in trips to National Forests, an effect on the economics of communities enroute of close by to NF sites results. These development effects may be large or small depending on how diverse and self sufficient these communities are and how much NF customers spend, and on what they spend. Typically the communities near National Forest are rural and thus are not highly diversified and are heavily dependent on importing good, technology and equipment from other regions. To the extent that communities (local area have a diversity of businesses and manufacturing and are less dependent on other regions economic activity is stimulated by recreation visitor spending. As a part of an interagency national study, estimates of visitor spending while involved in trips to public sites (including a sample of National Forest sites) is available. Estimates of the economic development effects of this spending is also available

Across a diverse array Forest recreation sites, the amount spent per person per trip for visits to developed sites ranges between about $17.50 and just over $46.00. Lodging spending is typically about 18 percent of these amounts, transportation 20 percent, food about 55 percent, and other purchases 7 percent.

Spending while involved in trips to public areas for dispersed recreational activities ranges between just over $18 up to $55 per person per trip. Dispersed recreation trip expenditures typically show about 9 percent for lodging, 34 percent for transportation, 54 percent for food, and 3 percent for other.

Based on these estimates of spending patterns measured across a wide array of forest recreation sites nationwide, estimates of local area economic development effects National Forest were estimated. These estimates reflect the total interdependence nationwide between resident and non-resident spending and local communities (counties containing and surrounding forest recreation sites).

MILLIONS OF DOLLARS PER YEAR

Economic Measure	Developed Site Visitor Effects	Disperse Rec. Visitors	Effect Total
Total Gross Out	$ 1,693	$ 4,321	$ 6,014
Total Income	$ 671	$ 1,710	$ 2,381
Value Added	$ 969	$ 1,951	$ 2,920
Employment(No.)	$53,958	$134,824	$188,782

Total gross output reflect total business and manufacturing activity associated with visitor spending. Total income is employee compensation and income to property holders. Value added indicates the sum of employee and property income to local area residents, plus indirect business taxes received by local governments in the area. This measure is essentially the value of stimulated production in the local area resulting from spending by recreationists. This interpretation assumes that resident visitors would

recreate and spend outside the local area if National Forest and other recreation opportunities were available within the local area.

Two specific case studies of Southeastern National Forest sites included the Chickasawhay District in Mississippi and the Joyce Kilmer/Slickrock Wilderness in North Carolina and Tennessee. As shown below, these two Forest Service sites are closely intertwined with their local area economies.

MILLIONS OF DOLLARS PER YEAR

Economic Measure	Interdependence		Growth	
	Chickas.	J. Kilmer/S	Chickas.	J. Kilmer/S
Total Gross Output	$5.4	$3.6	$4.0	$2.9
Total Income	$2.1	$1.7	$1.6	$1.4
Value Added	$2.4	$1.9	$1.9	$1.6
Employment	150	97	140	94

The above estimates indicates a flow of $1.6 million (Joyce Kilmer/Slickrock) to $1.9 million (Chickasahay) resulting from non-resident spending in the local area. This is growth to these economies above that which would occur if recreational opportunities were not offered on these National Forest sites. At Chickasawhay, $22,800 (For developed sites) and $41,200 (for dispersed recreation) of new value could be added to the local area economy for each 1000 visits which may be added as a result of new opportunities or demand growth. At Joyce Kilmer/Slickrock, $24,500 and almost 2 new jobs per year would be added for each additional 1000 visits of trips.

SUMMARY

National Forest attract almost 100 million trips per year for both developed and dispersed pursuits. The recreational opportunities on the National Forests which attract these trips have an estimated value to their customers of $3.36 billion per year. Economic development benefits of National Forest recreation is estimated to be $2.92 billion in value added and almost 190 million in jobs to the local communities nearby.

PARTNERSHIPS

WELCOME
TO THE
WORLD OF PARTNERSHIPS

Partnerships are the cornerstone of the Chief's National Recreation Strategy. To help you get better acquainted with partnerships, this Appendix provides brief information about the following categories of partnerships:

Volunteers

Gift, Sponsorship and Grant

Special Use Permit

Cooperative Agreement

Memorandum of Understanding

Contract and Collection Agreement

Assistance Grant

Challenge Grant

MESSAGE TO POTENTIAL PARTNERS

JOIN THE FOREST SERVICE IN A PARTNERSHIP . . .

DO SOMETHING GREAT FOR AMERICA'S NATIONAL FORESTS

The National Forests are truly America's great outdoors! More people recreate on the National Forests than anywhere else. In fact, there's a National Forest well within a day's drive of most Americans.

But few National Forests have reached their full recreational potential. That's why we're inviting you to become a partner with us, the Forest Service.

Your volunteer spirit has never been more welcome. It's the perfect time for you to be doing something great to help the natural resources of America!

WHAT ARE NATIONAL FOREST PARTNERSHIPS?

That's up to you or your organization, and your nearest Forest Service office.

If you can donate time, we welcome you! If you can contribute funds, wonderful! If you have ideas, products, or services we can use, join us! You can help us improve the recreational opportunities on your National Forests!

The men and women of the Forest Service are looking forward to forming a rewarding partnership with you. We're committed to the National Recreation Strategy—a unique plan aimed at finding creative ways to take advantage of outdoor recreation opportunities on the National Forests.

As a partner, you can help everyone appreciate and enjoy your nearest National Forest. Your support and help can open up all of its recreational potential.

Whether you are an individual, a company, or a member of an organization, we invite you to be our partner. Help improve outdoor recreation on the National Forests. Your commitment now will make a difference for years to come.

PARTNERSHIPS MEAN RESULTS!

There are so many good reasons to become a partner with your National Forest.

Once you help develop recreational attractions and facilities, tourism will increase. Surrounding economies will strengthen and diversify. Ultimately, you'll help improve the quality of life in your community.

As a partner, you will see first-hand the benefits of providing a public service to outdoor enthusiasts and novices alike. You'll provide environmental education; you'll promote a healthy, outdoor ethic among all users; you'll even give your own family and friends a new world of outdoor opportunities. You'll be getting the most out of your own backyard!

Above all, you'll help bring American people together with their land. You'll instill pride in our Nation, and give more childen and adults a chance to enjoy the natural beauty and miracles that surround us.

BLAZE YOUR OWN TRAIL . . .

The possibilities of what your ideas, time and contributions will lead to are endless. So are the challenges! Here are just a few examples of what you or your organization can do:

- Improve fisheries
- Plant trees and wildlife food
- Build bridges and walkways
- Plan and improve nature trails
- Donate equipment and materials
- Care for a campground
- Design a picnic area
- Donate recreational products
- Conduct interpretive programs
- Promote environmental education
- Rehabilitate recreational sites
- Protect endangered species
- Improve wildlife habitats

PARTNERSHIPS GROW FAST IN THE NATIONAL FORESTS!

It's already happening, and we invite you to join in on the fun of improving America's great outdoors.

At 156 National Forests in 43 states, partnerships have already made a difference:

On the Tonto National Forest in Arizona, volunteer partners are making recreation areas accessible for the disabled, the elderly, and children. With imaginative ideas, the whole community has pitched in to accommodate both human and resource needs.

In Alaska, Forest Service interpreters are paid by private cruise lines to provide a full range of natural resource information.

In Colorado, the Routt National Forest has entered into a partnership with the Steamboat Springs Chamber Association to reconstruct a wooden bridge at Fish Creek Falls.

In the Eastern United States, a partnership between the Forest Service, the National Park Service, and the Appalachian Trail Conference has helped make the Appalachian Trail world-renowned.

Success stories like these can happen in your area. But we need your partnership first. So seize this opportunity and make a difference!

FIND OUT WHAT YOU CAN DO FOR YOUR FOREST . . .

TALK TO US TODAY!

Partnership Agreement Flowchart